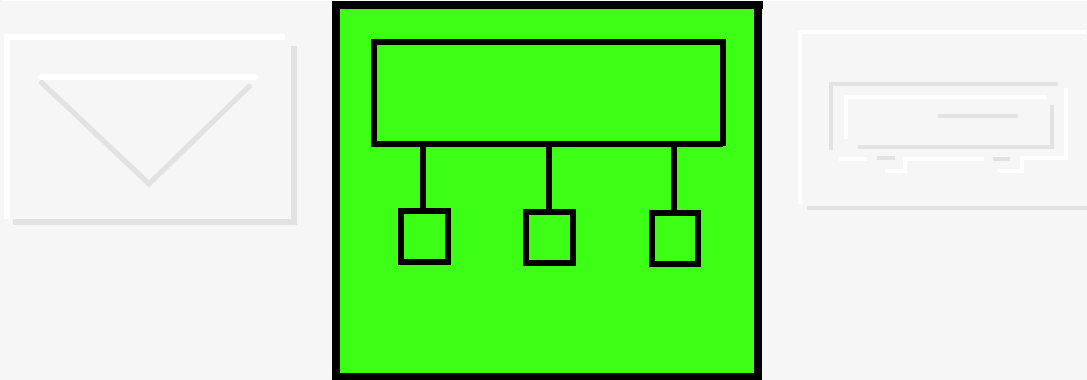


Xylogics Terminal Server



Supports Management Module SM-XYL1002

Copyright Notice

Document 1499. Copyright © 2001-present by Aprisma Management Technologies, Inc. All rights reserved worldwide. Use, duplication, or disclosure by the United States government is subject to the restrictions set forth in DFARS 252.227-7013(c)(1)(ii) and FAR 52.227-19.

Liability Disclaimer

Aprisma Management Technologies, Inc. ("Aprisma") reserves the right to make changes in specifications and other information contained in this document without prior notice. In all cases, the reader should contact Aprisma to inquire if any changes have been made.

The hardware, firmware, or software described in this manual is subject to change without notice.

IN NO EVENT SHALL APRISMA, ITS EMPLOYEES, OFFICERS, DIRECTORS, AGENTS, OR AFFILIATES BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING BUT NOT LIMITED TO LOST PROFITS) ARISING OUT OF OR RELATED TO THIS MANUAL OR THE INFORMATION CONTAINED IN IT, EVEN IF APRISMA HAS BEEN ADVISED OF, HAS KNOWN, OR SHOULD HAVE KNOWN, THE POSSIBILITY OF SUCH DAMAGES.

Trademark, Service Mark, and Logo Information

SPECTRUM, **IMT**, and the **SPECTRUM IMT/VNM** logo are registered trademarks of Aprisma Management Technologies, Inc., or its affiliates.

APRISMA, **APRISMA MANAGEMENT TECHNOLOGIES**, the **APRISMA MANAGEMENT TECHNOLOGIES** logo, **MANAGE WHAT MATTERS**, **DCM**, **VNM**, **SpectroGRAPH**, **SpectroSERVER**, **Inductive Modeling Technology**, **Device Communications Manager**, **SPECTRUM Security Manager**, and **Virtual Network Machine** are unregistered trademarks of Aprisma Management Technologies, Inc., or its affiliates. For a complete list of Aprisma trademarks, service marks, and trade names, go to <http://www.aprisma.com/manuals/trademark-list.htm>.

All referenced trademarks, service marks, and trade names identified in this document, whether registered or unregistered, are the intellectual property of their respective owners. No rights are granted by Aprisma Management Technologies, Inc., to use such marks, whether by implication, estoppel, or otherwise. If you have comments or concerns

about trademark or copyright references, please send an e-mail to spectrum-docs@aprisma.com; we will do our best to help.

Restricted Rights Notice

(Applicable to licenses to the United States government only.)

This software and/or user documentation is/are provided with RESTRICTED AND LIMITED RIGHTS. Use, duplication, or disclosure by the government is subject to restrictions as set forth in FAR 52.227-14 (June 1987) Alternate III(g)(3) (June 1987), FAR 52.227-19 (June 1987), or DFARS 52.227-7013(c)(1)(ii) (June 1988), and/or in similar or successor clauses in the FAR or DFARS, or in the DOD or NASA FAR Supplement, as applicable. Contractor/manufacture is Aprisma Management Technologies, Inc. In the event the government seeks to obtain the software pursuant to standard commercial practice, this software agreement, instead of the noted regulatory clauses, shall control the terms of the government's license.

Virus Disclaimer

Aprisma makes no representations or warranties to the effect that the licensed software is virus-free.

Aprisma has tested its software with current virus-checking technologies. However, because no antivirus system is 100 percent effective, we strongly recommend that you write-protect the licensed software and verify (with an antivirus system in which you have confidence) that the licensed software, prior to installation, is virus-free.

Contact Information

Aprisma Management Technologies, Inc.

273 Corporate Drive

Portsmouth, NH 03801

Phone: 603-334-2100

U.S. toll-free: 877-468-1448

Web site: <http://www.aprisma.com>

Contents

INTRODUCTION	5	Port Interface Status.....	14
Purpose and Scope	5	Serial Port Configuration View	14
Required Reading	5	Serial Port Configuration View for the	
Supported Devices.....	6	CSMIM and Annex2.....	15
The SPECTRUM Model.....	7	Serial Port Configuration View for the CSMIMII,	
		MicroCS, MicroAnnex, and 5390/5390-2.....	17
TASKS	8	Serial Port Flow Control and Signal	
Application Information (examine)	8	Parameters View	20
Device (configure)	8	Serial Port Timers and Counters View.....	21
Device Performance (monitor)	8	Port Security Parameters View.....	22
Interface Mask and Address (examine)	8	CLI Line Editing Parameters View	23
Model Information (examine)	8	Serial Networking Parameters	25
Model Redundancy (configure)	8	General Parameters.....	25
Port Configuration (examine/modify)	8	Slip Parameters.....	26
Port (examine/enable/disable)	8	PPP Parameters.....	26
		LAT Port Parameters View	28
		PPP Port Parameters View.....	28
		Serial Port Performance View.....	29
		Port Interface Status View.....	30
		Interface Status View	30
		Secondary Address Panel.....	31
DEVICE VIEWS	9		
Logical Device View.....	9	DEVICE TOPOLOGY VIEWS	32
Logical Interface Icons.....	10		
Interface Icon Subviews Menu Options.....	11	APPLICATION VIEWS	33
Ethernet Interface Number.....	11	Main Application View.....	33
Ethernet Interface Configuration View.....	12		
Interface Receive Statistics.....	13		
Interface Send Statistics.....	13		
Serial Port Logical Interface Icon	14		
Interface Number	14		

Application Icons	34
Supported Applications	35
Common Applications.....	35
Character Stream Application View (RFC1316App)	37
Character Port Table	37
Character Port Detail View	38
Parallel Port Application	40
Parallel Port Table	40
Parallel Port Detail View	41
Xylogics Modem Application View	41
Modem Calls Table.....	42
Xyl Parallel Application Views	42
Parallel Port View	43
Xylogics Parallel Port Configuration View	43
PERFORMANCE VIEWS	44
Device Performance View.....	45
Port Performance View	45
CONFIGURATION VIEWS	46
Device Configuration View	46
CSMIM and Annex II Configuration View	47
Boot and Network Administration View	48
NameServer Parameters View	51
LAT Parameters View	52
VCLI Parameters View	53
Serial Port Table	53
MicroAnnex, MicroCS, and CSMIM II Configuration View	54

Boot and Network Administration View.....	56
Trap Host View	57
LAT Parameters View	57
Security Parameters View.....	58
NameServer Parameters View	58
Diagnostic View	59
Diagnostic View Information.....	59
Diagnostic Detail View	59
Diagnostic Detail View Information.....	60

MODEL INFORMATION VIEWS	62
--------------------------------------	-----------

INDEX	63
--------------------	-----------

Introduction

This section introduces the SPECTRUM Device Management documentation for Xylogics Terminal Server devices.

This introduction to the Device Management documentation for Xylogics Terminal Server devices contains the following information:

- [Purpose and Scope](#)
- [Required Reading](#)
- [Supported Devices](#) (Page 6)
- [The SPECTRUM Model](#) (Page 7)

Purpose and Scope

Use this documentation as a guide for managing Xylogics Terminal Server devices with the SPECTRUM management module SM-XYL1001. The documentation describes the icons, menus, and views that enable you to remotely monitor, configure, and troubleshoot Motorola Vanguard devices through software models in your SPECTRUM database.

Only information specific to the supported management module is included under this documentation topic. For general information

about device management using SPECTRUM and for explanations of basic SPECTRUM functionality and navigation techniques, refer to the topics listed under [Required Reading](#).

Required Reading

To use this documentation effectively, you must be familiar with the information covered by the other SPECTRUM online documentation topics listed below.

- ***Getting Started with SPECTRUM for Operators***
- ***Getting Started with SPECTRUM for Administrators***
- ***How To Manage Your Network with SPECTRUM***
- ***SPECTRUM Views***
- ***SPECTRUM Menus***
- ***SPECTRUM Icons***
- ***SPECTRUM Software Release Notice***

Supported Devices

The SPECTRUM management module SM-XYL-1001 currently allows you to model three different types of Xylogics Terminal Server devices as described below.

Synoptics 5390 (Xyl_5390). This model type is for Xylogics Terminal Servers with a Software version less than 9.0.

Synoptics 5390 (Xyl_5390II). This model type is for Xylogics Terminal Servers with a Software version great than 9.0.

CSMIM, CSMIMII, AnnexII (Xyl_CSMIM). This model type is used with Xylogics Terminal Servers with a Software version less than 9.0.

CSMIM, CSMIMII, AnnexIII, MODMIM, MODEXT-4, MODEXT-8 (Xyl_CSMIMII). This model type is used for Xylogics Terminal Servers that has a Software Version greater than 9.0.

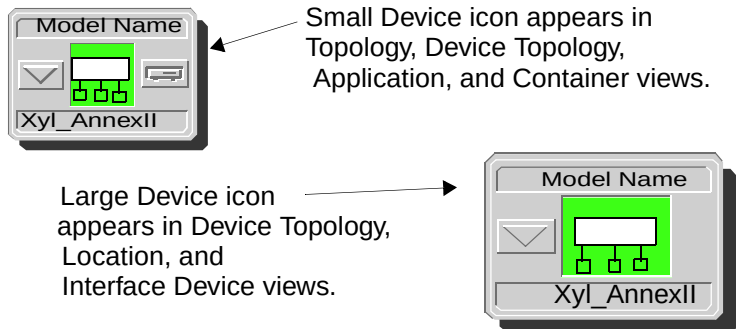
MicroCS, MicroAnnex (Xyl_MicroCS). This model type is used for Xylogics Terminal Servers that have a Software Version greater than 9.0.

Annex II (Xyl_AnnexII). The model type is used for Xylogics Terminal Servers with a Software Version of R7.1.

The SPECTRUM Model

SPECTRUM uses these device model types, for modeling supported Xylogics Terminal Servers: **Xyl_5390**, **Xyl_5390II**, **Xyl_CSMIM**, **Xyl_CSMIMII**, **Xyl_Micro**, **Xyl_AnnexII**. Xylogics models are represented in SpectroGRAPH views by Device icons. As [Figure 1](#) shows, the appearance of the Device icon varies slightly depending on the kind of view it appears in.

Figure 1: Small and Large Device Icons



such as those listed in the [Tasks](#) section immediately following this introduction.

The rest of the documentation for this management module is organized according to view type, as follows.

- [Device Views](#) (Page 9)
- [Device Topology Views](#) (Page 32)
- [Application Views](#) (Page 33)
- [Performance Views](#) (Page 44)
- [Configuration Views](#) (Page 46)
- [Model Information Views](#) (Page 62)

Through its double-click zones and its **Icon Subviews** menu, the Device icon is your starting point for accessing the views and other displays that let you perform device management activities

Tasks

This section lists device management tasks alphabetically and provides links to descriptions of the views and/or tables used to perform the task.

Application Information (examine)

- [Application Views](#) (Page 33)

Device (configure)

- [Configuration Views](#) (Page 46)

Device Performance (monitor)

- [Device Views](#) (Page 9)
- [Device Performance View](#) (Page 45)

Interface Mask and Address (examine)

- [Secondary Address Panel](#) (Page 31)

Model Information (examine)

- [Model Information Views](#) (Page 62)

Model Redundancy (configure)

- [Device Configuration View](#) (Page 46)

Port Configuration (examine/modify)

- [Logical Device View](#) (Page 9)

- [Logical Interface Icons](#) (Page 10)

- [Device Configuration View](#) (Page 46)

Port (examine/enable/disable)

- [Interface Status View](#) (Page 30)
- [Configuration Views](#) (Page 46)

Device Views

This section describes the Device views and subviews available for models of Xylogics Terminal Server devices in SPECTRUM.

Device views use icons and labels to represent the modeled device and its components, such as modules, ports, and applications. There are two types of Device views for Xylogics models.

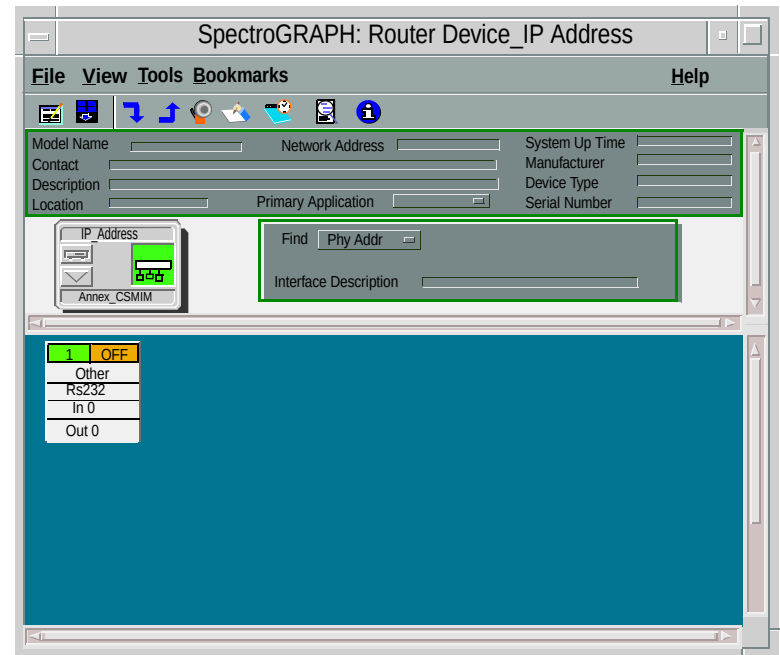
- [Logical Device View](#)
- [Interface Status View](#) (Page 30)

Logical Device View

Access: From the **Icon Subviews** menu for the Xylogics Device icon, select **Device > Logical**.

This view provides dynamic configuration and performance information for each of the device's serial/network I/O ports, which are represented by Interface icons in the bottom panel of the view, as shown in [Figure 2](#). The middle panel of the view also displays a Device icon, which allows you to monitor the device operation and access other device-specific views.

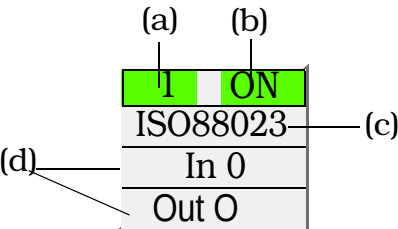
Figure 2: Interface Device View



Logical Interface Icons

Figure 3 shows a close-up of an Interface icon from an Interface Device view. Most of the informational labels on the icon also provide double-click access to other views, as explained in the following label descriptions.

Figure 3: Interface Icon



- a Interface Number Label
- b IF Status Label
- c Interface Type Label
- d Physical Address Label

Interface Number Label

This label displays the interface number.

IF Status Label

This label displays the current Operational Status of the interface (see Table 1). Note that the background color of the label also depends on the interface’s current Administrative Status, which is set by the user (see Interface Status View on Page 30). This view can be accessed by double-clicking the label.

Table 1: Interface Status Label Colors

Color	Operational Status	Administrative Status	Label Text
Green	ON	ON	ON
Blue	OFF	OFF	OFF
Yellow	OFF	ON	OFF
Red	Testing	Test	Test

Interface Type Label

This label identifies the type of interface—e.g., Ethernet, FDDI, Other, etc. Double-click this label to access the Secondary Address Panel (Page 31).

Physical Address Label

This label displays the physical (MAC) address of the interface. Double-click the label to open the Interface Address Translation table, which cross-references network addresses (IP addresses) to physical(MAC) addresses for selected nodes between networks. Double-clicking on any column entry opens an address-specific Address Translation Table Information view. This view provides the same information as the corresponding row for the IF Address Translation.

Interface Icon Subviews Menu Options

[Table 2](#) lists the Icon Subviews menu options available for the Interface icon.

Table 2: Interface Icon Subviews Menu

Option	Opens the...
Detail	Interface Detail view, which displays Packet, Error, and Discard Breakdown pie charts.
IF Status	Interface Status View (Page 30).
IF Configuration	Model Information Views (Page 62).
Model Information	Model Information view for the selected interface (see Model Information Views on Page 62).
IF Address Translation Table	Interface Address Translation Table view, which shows the Physical and Network address for each interface.
Secondary Address Panel	Secondary Address Panel (Page 31).

Ethernet Interface Number

Click label a, Ethernet Logical Interface Number, to access the Interface Port Notes view.

Interface Status

Double-clicking label b, Ethernet Logical Interface Status, accesses the Ethernet Interface Status view. The Ethernet Interface Status view provides the following information for the Xylogics Terminal Server device's Ethernet interfaces:

Port

Provides the interface number for this port.

Type

The current type of this port.

Operational Status

The current operational state of the port (ON, OFF, or TEST).

Administrative Status

The desired operational state of the port (ON, OFF, or TEST). This button can be changed.

Ethernet Interface Configuration View

The Ethernet Interface Configuration view (label c) displays a text label and an appropriate background color to represent the current status of the interface. Text labels are **Enet** and **Loopback**.

Double-clicking label d accesses the Ethernet Interface Configuration view. The Ethernet Interface Configuration view provides the following information for the Xylogics Terminal Server device's Ethernet interfaces:

Interface

Provides the interface number for this port.

Operational Status

The current operational state of the port (ON, OFF, or TEST).

Administrative Status

The desired operational state of the port (ON, OFF, or TEST). This field can be changed.

Last Status Change

The System UpTime value when the port entered its current operational state.

Physical Address

The Ethernet (MAC) address of the port.

Bandwidth

The estimated bandwidth of the interface measured in bits per second. For interfaces that do not vary in bandwidth or for which no accurate estimate can be made, a nominal bandwidth is provided.

Largest Datagram Supported

The largest Maximum Transmission Unit (MTU) that can be transmitted or received by the port measured in octets.

Length of Output Packet Queue

The length of the outbound packet queue in packets.

Interface Receive Statistics

The Interface Receive Statistics view provides the following information on incoming port traffic (measured in packets received):

Unknown Protocol Packets Received

The number of discarded packets because of an unknown protocol.

Unicast Packets Delivered

The number of unicast packets delivered to a higher level protocol.

NonUnicast Packets Delivered

The number of non-unicast packets delivered to a higher level protocol.

Inbound Packets Discarded

The number of inbound packets discarded even though no errors were detected to make them undeliverable. Such packets may have been discarded to increase buffer space.

Inbound Errors

The number of packets containing errors preventing them from being delivered to a higher level protocol.

In addition the [Interface Receive Statistics](#) (Page 13) contains a gauge which measures the total number of octets received by the port. An **Octets Received** button accesses a rate graph displaying the total number of octets received by the port over a given timeframe.

Interface Send Statistics

The Interface Send Statistics view provides the following information on outgoing port traffic (measured in packets sent):

Outbound Packet Queue

The length of the outbound packet queue in packets.

Unicast Packets Requested

The number of unicast packets that a higher level protocol requested for transmission.

NonUnicast Packets Requested

The number of non-unicast packets that a higher level protocol requested for transmission.

Outbound Packets Discarded

The number of outbound packets discarded even though no errors were detected to prevent them from being transmitted. Such packets may have been discarded to increase buffer space.

Outbound Errors

The number of packets containing errors preventing them from being transmitted to a higher level protocol.

Octets Sent

This button accesses a rate graph displaying the total number of octets transmitted by the port over a given timeframe.

In addition, the [Interface Send Statistics](#) (Page 13) contains a gauge which measures the total number of octets transmitted by the port.

Serial Port Logical Interface Icon

The Port Logical Interface icon consists of five zones, providing configuration and performance information.

Interface Number

Click label a to access the Interface Port Notes view.

Port Interface Status

Double-clicking label b accesses the Port Interface Status view. The Port Interface Status view provides the following information for the serial port interfaces:

Port

Provides the interface number for this port.

Type

The current type of this port.

Operational Status

The current operational state of the port (ON, OFF, or TEST).

Administrative Status

The desired operational state of the port (ON, OFF, or TEST). This field can be changed.

Serial Port Configuration View

The Serial Port Configuration view allows you to configure serial port parameters. You can click label c within the Serial Port Logical Interface icon to access the Serial Port Configuration view.

The Serial Port Configuration view fields for the CSMIM and Annex2 differ from the CSMIMII, MicroAnnex, MicroCS, and 5390/5390-2; each view type with the associated fields is described below.

Serial Port Configuration View for the CSMIM and Annex2

Port

The ID for this port.

Dedicated Port

Defines the application name or TCP port number to which this port can connect. The allowed names are: **telnet**, **rlogin**, and **call**.

Dedicated Addr

Defines the Internet address of the host to which this port can connect to.

Term Var

This parameter displays the type of terminal using the CLI connection.

Location

The location of the Xylogics Terminal Server device.

Buffer Size

The number of 256-byte buffer blocks allocated to receive or send input characters from this port.

Prompt

This parameter defines a port-specific CLI prompt.

Type

This parameter allows you to configure the port. Possible settings are: **hardwired**, **dialing**, **x25**, **tn3270**, **pc**, **terminal**, **modem**, and **printer**.

Mode

This parameter sets the access method to a serial line port either from the device to the terminal server or from the network through the server to the device. [Table 3](#) describes the access methods. The default is “cli”.

Table 3: Access Information

Method	Description
cli	Provides access to the CLI for a port connected to a terminal or for an incoming modem. T
slave	Provides access to a port through the port server but does not provide access to the CLI.

Table 3: Access Information

Method	Description
unused	Indicates that the port has no connection.
adaptive	Provides a port with both cli and slave capability.
slip	Provides a port that can perform a network interface using SLIP.
dedicate	Provides a port with access to only one specific host as defined in the Dedicated Addr parameter.
ppp	Provides a port that can perform as a network interface using PPP

Allow Broadcasts

If enabled, allows the port to receive broadcast messages generated by the broadcast and boot commands.

Broadcast Direction

This parameter defines the direction an administrative broadcast message is sent on a port. This parameter is valid only if the Mode parameter is set to slave. If network is specified, administrative broadcast messages are sent out of

the network side of the connection. If Port is specified, broadcast messages are sent out of the port side of the connection. The default is “Port”.

Imask 7Bit

If enabled, the port ignores the eighth bit of received characters. The default is “Disabled”.

CLI Imask7

If enabled, CLI input is masked to seven bits. If disabled, eight bit ASCII input is expected. The default is “Enabled”.

Banner

Allows you to enable or disable the Annex banner and message-of-the day.

Flow Control

This button accesses the Serial Port Flow Control and Signal Parameters view, which is described later in this chapter.

Port Timers

This button accesses the Serial Port Timers and Counters view, which is described later in this chapter.

Port Security

This button accesses the Port Security Parameters view, which is described later in this chapter.

CLI Line Edit

This button accesses the CLI Line Editing Parameters view, which is described later in this chapter.

SLIP/PPP Parameters

This button accesses the Serial Networking Parameters view, which is described later in this chapter.

Serial Port Configuration View for the CSMIMII, MicroCS, MicroAnnex, and 5390/5390-2

Port

The ID for this port.

Buffer Size

The number of 256-byte buffer blocks allocated to receive or send input characters from this port.

Dedicated Port

Defines the application name or TCP port number to which this port can connect. The allowed names are **telnet**, **rlogin**, and **call**.

Dedicated Addr

Defines the Internet address of the host to which this port can connect to.

Term Var

This parameter displays the type of terminal using the CLI connection.

Location

The location of the Xylogics Terminal Server device.

Prompt

This parameter defines a port-specific CLI prompt.

Apple Talk Node ID

The default Appletalk node ID hint that is used by the Annex on this port. The address consists of two sections separated by a dot; the address is in either hex or decimal format.

Printer Host

The IP address of the machine running a Berkely-style lpd server.

Printer Name

A valid printer name contained in the /etc/printcap file on the remote host.

Location

A descriptive string for this port. This string is displayed by the CLI who command.

Modem Var

A string defining the type of modem attached to the serial port.

Term Var

A string defining the type of terminal attached to the serial port.

Type

This parameter allows you to configure the port. Possible settings are: **hardwired**, **dialing**, **x25**, **tn3270**, **pc**, **terminal**, **modem**, and **printer**.

Mode

This parameter sets the access method to a serial line port either from the device to the terminal server or from the network through the server to the device. [Table 4](#) describes the access methods. The default is “cli”.

Table 4: Access Methods

Method	Description
cli	Provides access to the CLI for a port connected to a terminal or for an incoming modem.
slave	Provides access to a port through the port server but does not provide access to the CLI.
adaptive	Provides a port with both cli and slave capability.
unused	Indicates that the port is not configured.
slip	Provides a port that can perform as a network interface using SLIP.
dedicate	Provides a port with access to only one specific host as defined in the Dedicated Addr parameter.
ppp	Provides a port that can perform as a network interface using PPP.
ara	provides a port that can perform as a network interface using ppp.
invalid	marks the port as invalid.

DTR Signal

Controls the Data Terminal Ready output control signal for this serial port. Valid set values are **high**, **low**, or **unknown**.

RTS Signal

Controls the Request to Send output control signal for this serial port. Valid set values are **high**, **low**, or **unknown**.

Autobaud

When enabled, specifies that the line speed should be determined when opening the connection. The default is **disabled**.

Allow Broadcasts

If enabled, allows the serial port to receive broadcast messages generated by the broadcast and boot commands.

Broadcast Direction

Defines the direction in which a administrative broadcast message is sent. This parameter is valid only if the Mode parameter is set to save. If network is specified, administrative broadcast messages are sent out of the network side of the connection. If Port is specified, broadcast messages are sent out of the port side of the connection. The default is "Port".

Session Mode

The default session mode when the DECServer command interface is configured. The default is interactive.

ARAP V.42bis

Controls whether V.42bis compression is done during an ARAP session. This button may be **enabled** or **disabled**.

Banner

Allows you to enable or disable the Annex banner and message-of-the day.

Imask 7Bit

If enabled, the port ignores the eighth bit of received characters. The default is "Disabled".

CLI Imask7

If enabled, CLI input is masked to seven bits. If disabled, eight bit ASCII input is expected. The default is "Enabled".

CLI Interface

Specifies either a UNIX or VMS command line interface. The default is **Unix**.

Flow Control

This button accesses the Serial Port Flow Control and Signal Parameters View, which is described later in this chapter.

Port Timers

This button accesses the Serial Port Timers and Counters view, which is described later in this chapter.

Port Security

This button accesses the Port Security Parameters view, which is described later in this chapter.

CLI Line Editing

This button accesses the CLI Line Editing Parameters view, which is described later in this chapter.

SLIP/PPP Parameters

This button accesses the Serial Networking Parameters view, which is described later in this chapter.

LAT Parameters

This button accesses the LAT Port Parameters view, which is described later in this chapter.

Serial Port Flow Control and Signal Parameters View

To access the Serial Port Flow Control and Signal Parameters view, click the Serial Port Configuration view **Flow Control** button. This view provides the following information about serial port and signal parameters:

Control Lines

The type of hardware control lines used on the port. [Table 5](#) describes the available control types. The default is “none”.

Table 5: Hardware Control Lines

Control Type	Description
none	Does not implement hardware control lines.
flowcontrol	Configures the control lines for flow control using RTS/CTS bust does not activate hardware flow control.
modemcontrol	Configure the control lines for modem control using DCD/DTR hand shaking.
both	Allows both flow and modem control.

Need DSR

Enabling this parameter allows the terminal server to send a DSR (Data Set Ready) signal to determine if there is a device attached to the corresponding serial line. The default is “Disabled”.

IXany Flow Control

Enabling this parameter treats any input character as a start (^Q) character even if output has been suspended by a stop (^S) character. The default is “Disabled”.

Bidirectional Modem

Enabling this parameter allows network connections to the port without having to wait for a Data Carrier Detect (DCD) modem signal. The default is “Disabled”.

Input Buffer Size

This parameter regulates the number of per port buffers in 512-byte blocks. It is valid for serial port connections only.

Input Stop Char

The control character sequence that stops input if XON/XOFF flow control is enabled. The default is “CTRL-S (^S)”.

Input Start Char

The control character sequence that restarts input if XON/XOFF flow control is enabled. The default is “CTRL-Q (^Q)”.

Output Stop Char

The control character sequence that stops output if XON/XOFF flow control is enabled. The default is “CTRL-S (^S)”.

Output Start Char

The control character sequence that restarts output if XON/XOFF flow control is enabled. The default is “CTRL-Q (^Q)”.

Serial Port Timers and Counters View

To access the Serial Port Timers and Counters view, click the Serial Port Configuration View **Port Timers** button. This view provides the following information about the serial port timer and counter parameters:

Short Break

Enabling this parameter returns the user to the CLI prompt if a break shorter than two seconds is received. This parameter is only valid for a CLI connection. The default is “Enabled”.

Long Break

Enabling this parameter returns the user to the CLI prompt if a break greater than two seconds is

received. This parameter is only valid for a CLI connection. The default is “Enabled”.

Input Is Activity

Enabling this parameter resets the inactivity timer when input is received at the port. The default is “Enabled”.

Output Is Activity

Enabling this parameter resets the inactivity timer when output is transmitted to the port and places an entry in the who table if the Type parameter is hard wired. The default is “Disabled”.

Reset Inactivity Timer

Resets the Port Inactivity Timer according to input or output activity.

CLI Inactivity Timer

The amount of time, in minutes, that the terminal server waits before hanging up the port if it becomes idle. The CLI Inactivity Timer only effects ports with no active CLI jobs. Allowable values range from 0 (or off) to 254 minutes. The default is “0”.

Port Inactivity Timer

The amount of time, in minutes, that a port can remain inactive. Allowable values range from 0 (or off) to 254 minutes. The default is “0”.

TCP Keep Alive Timer

The default keep-alive value for connections to this serial port. If this is zero, use the value specified by TCPkeepalive.

Forwarding Timer

This parameter sets the time, in five millisecond intervals, that will elapse before forwarding received data. If new data is received before the timer expires, the terminal server resets the timer and defers sending the data.

Forwarding Count

This parameter controls the forwarding process for the port. If set to a non-zero value, the port will not forward received characters until the specified number of characters is reached. When set to zero, the port will wait for the Forwarding Timer to expire before forwarding characters. Allowable values range from 0 to 255. The default is “0”.

Port Security Parameters View

This view provides the following information about the port security parameters:

CLI Security

Enabling this parameter activates security for the terminal server. This parameter is mandatory if any Xylogics Terminal Server device port security

mechanisms are to be used. The default is “Disabled”.

Connect Security

Enabling this parameter activates a security mechanism to control access from the CLI to the network. A user must receive authorization to connect to a host on the network. The default is “Disabled”.

Server Security

Enabling this parameter activates a security mechanism to control access to the port from the port server. Only authorized users can access the port. The default is “Disabled”.

Vci Login Password

Enables the port password if the port is configured as a DECserver interface port. The default is enabled.

Vci Login Timeout

Enables a login timer if the port is configured as a DECServer interface port. The default is disabled.

Apple Talk Security

The default AppleTalk node ID hint that is used by the Annex on this port.

ARAP Guest Login

If enabled, allows ARAP guest login service.

IP Security

Controls whether IP security is enabled on this port. The default is enabled.

IP Classification

Configured as a DECServer interface port. The default is disabled.

Password

The local password for the port. This parameter can be used as a backup for other security mechanisms. If security is enabled, cli security = disabled, and the port password is set, you must enter the password regardless of the mode parameter’s setting.

User Name

The port’s user name.

CLI Line Editing Parameters View

This view provides the following information about CLI line editing functions:

Echo

Enabling this parameter echoes all characters as they are typed. The default is “Disabled”.

Hardware Tabs

Enabling this parameter allows the terminal to expand ASCII tab characters if the terminal does

not support hardware tabs. This parameter only effects CLI. The default is “Enabled”.

Telnet CRLF

Enabling this parameter translates a carriage return into a carriage return followed by a line feed. Disabling this parameter translates a carriage return into a carriage return followed by a null string. The default is “Disabled”.

Map To Upper

Enabling this parameter converts case from lower to upper for characters sent from a terminal to the terminal server. This parameter is enabled for older terminals that do not support upper case characters. The default is “Disabled”.

Map To Lower

Enabling this parameter converts case from upper to lower for characters sent from a terminal to the terminal server. This parameter is enabled for older terminals that do not support lower case characters. The default is “Disabled”.

Telnet Escape

Defines the character that returns you to the telnet prompt when using the CLI telnet command. Setting this parameter to “U” disables the escape. The default is “CTRL-]” (^)].

Redisplay Line

Defines the reprint line character. The default is “CTRL-R” (^R).

Toggle Output

Defines the flush control character used to flush the output buffer. The default is “CTRL-O” (^O).

Newline Echo

Defines whether a carriage return is echoed as an enabled carriage return or a carriage return and line feed. Choices are **CR** and **CR/LF**.

Attention Char

Defines a control character sequence that returns you to the CLI prompt.

Erase Char

Defines the character erase control character sequence at the CLI level. The default is the “Delete” key (displayed as ^?); values may be displayed as one or two characters.

Erase Word

Defines the word erase control character sequence at the CLI level. The default is “CTRL-W” (^W).

Erase Line

Defines the line erase control character sequence at the CLI level. The default is “CTRL-U” (^U).

Char Erase

Enabling this parameter echoes the character or word erase character for a video terminal (the previous character looks like it has been erased). Disabling this parameter echoes the erase or word character for a hard copy terminal. The default is “Enabled”.

Line Erase

Enabling this parameter echoes line erase for a video terminal. It erases all characters on the line and moves the cursor back to the beginning of a line. Disabling this parameter echoes the line erase character for a hard copy terminal. It echoes the erase character and a new line so the deleted line is still visible. The default is “Enabled”.

Serial Networking Parameters

Click the **SLIP/PPP Parameters** button from the CSMIMII and MicroCS models to access the following parameters:

General Parameters

Port

The selected serial port on this annex.

Local IP Addr

The Internet address for this port. The default is “0.0.0.0”.

Remote IP Addr

The Internet address for the host at the other end of the serial line. The default is “0.0.0.0”.

Metric

Defines the hop count to the remote end of the SLIP or PPP interface. Setting this object to 0 defaults to a value of 1.

Phone Number

The phone number used for this port when doing demand dialing.

Net Inactivity

The number of minutes allowed for serial protocol inactivity on the port. When the interval expires, the port is automatically reset. A value of 0 disables the timer.

Dialup Addresses

When enabled, the Annex requests the PPP dial-up addresses from the host-based ACP. The default is Disabled.

Demand Dial

When enabled, allows the Annex to instruct the modem attached on the port to dial the phone number.

SLIP Security

This parameter controls dial up SLIP access. If enabled, and security is enabled on the Xylogics Terminal Server device, access to the slip command is restricted using the Access Control Protocol (ACP). The default is “Disabled”.

Do Compression

Enabling this parameter starts TCP/IP header compression on this SLIP link. The terminal server negotiates for TCP/IP compression on each connection. The default is “Disabled”.

Allow Compression

Enabling this parameter allows the terminal server to use TCP/IP header compression if the other end of the SLIP link initiates compression. The default is “Disabled”.

Slip Parameters

Subnet Mask

The Internet subnet mask for the interface. The default is “0.0.0.0”.

Load Dump Host

The Internet address of the host from which the terminal server receives a load or to which the server dumps over the SLIP interface. The default is “0.0.0.0”.

Allow Dumps

Enabling this parameter allows dumping across a SLIP link. The default is “Enabled”.

MTU Size

This parameter sets the Maximum Transmission Unit (MTU) size on a compressed SLIP port. The possible MTU selections are **large** (1006) or **small** (256). The default is “small”.

Discard ICMP

Enabling this parameter discards any ICMP packets transmitted to the SLIP link to reduce unnecessary traffic. The default is “Disabled”.

SLIP TOS

Enabling this parameter provides type-of-service queuing on the SLIP link. The terminal server will transmit interactive traffic (e.g., telnet, rlogin, and ftp) before transmitting other traffic. The default is “Disabled”.

PPP Parameters

Remote Username

The PPP ports user’s name. The parameter is displayed as <set> or <unset>. The default is “<unset>”.

Remote Password

The PPP port user's password. The parameter is displayed as <set> or <unset>. The default is "<unset>".

MRU

The Maximum Receive Unit (MRU) parameter. Values range from 64 to 1500. The default is "1500".

ACM

The Asynchronous Control Mask (ACM) parameter specifies which of the first 32 bytes (0x0 to 0x1F) can be transmitted as clear text and which should be protocol escaped before being transmitted. The default is "0x00000000".

Protocol

The PPP protocol running on the interface. Options are ipcp, atcp, and all; the default is "all".

Security Protocol

This parameter requires remote users to pass a security check before communicating with the terminal server. The options are Password Authentication Protocol (PAP) or none. The default is "none".

The CSMIM, ANNEX11, and 5390 provide the SLIP Parameters view. This view displays the following information about the SLIP port parameters:

Port

The selected serial port on this annex.

SLIP TOS

Enabling this parameter provides type-of-service queuing on the SLIP link. The terminal server will transmit interactive traffic (e.g., telnet, rlogin, and ftp) before transmitting other traffic. The default is "Disabled".

MTU Size

This parameter sets the Maximum Transmission Unit (MTU) size on a compressed SLIP port. The possible MTU selections are **large** (1006) or **small** (256). The default is "small".

Do Compression

Enabling this parameter starts TCP/IP header compression on this SLIP link. The terminal server negotiates for TCP/IP compression on each connection. The default is "Disabled".

Allow Compression

Enabling this parameter allows the terminal server to use TCP/IP header compression if the other end of the SLIP link initiates compression. The default is "Disabled".

Filter ICMP Packets

Enabling this parameter discards any ICMP packets transmitted to the SLIP link to reduce unnecessary traffic. The default is "Disabled".

Allow Dumps

Enabling this parameter allows dumping across a SLIP link. The default is “Enabled”.

SLIP Security

This parameter controls dial up SLIP access. If enabled, and security is enabled on the Xylogics Terminal Server device, access to the slip command is restricted using the Access Control Protocol (ACP). The default is “Disabled”.

Local IP Addr

The Internet address for this port. The default is “0.0.0.0”.

Remote IP Addr

The Internet address for the host at the other end of the serial line. The default is “0.0.0.0”.

Subnet Mask

The Internet subnet mask for the interface. The default is “0.0.0.0”.

Load Dump Host

The Internet address of the host from which the terminal server receives a load or to which the server dumps over the SLIP interface. The default is “0.0.0.0”.

Metric

The hop count to the remote end of the serial line. This parameter should be modified only if a

different route other than the SLIP interface is to be used to the remote end. The default is “0”.

LAT Port Parameters View

This view provides the following information about the LAT port parameters:

Port

The number of serial ports on this annex.

LAT-B Decoding

Enabling this parameter allows the terminal server to decode a LAT host’s data-b packet. The default is “Disabled”.

Authorized Groups

This parameter specifies which remote group codes are accessible to users on the port.

PPP Port Parameters View

The CSMIM, AnnexII, and 5390 provide the PPP Parameters view. This view displays the following information about the PPP port parameters:

PPP Security Protocol

This parameter requires peers to pass a security check before communicating with the terminal server. The options are Password Authentication Protocol (PAP) or none. The default is “none”.

Dialup Address Req

Enabling this parameter allows the terminal server to request the endpoint address from the Access Control Protocol (ACP). This parameter, if enabled, overrides both Local IP Addr and Remote IP Addr. The address is based on the user's login. The default is "Disabled".

MRU

The Maximum Receive Unit (MRU) parameter. Values range from 64 to 1500. The default is "1500".

ACM

The Asynchronous Control Mask (ACM) parameter specifies which of the first 32 bytes (0x0 to 0x1F) can be transmitted as clear text and which should be protocol escaped before being transmitted. The default is "0x00000000".

Metric

The hop count to the remote end of the serial line. This parameter should be modified only if a different route other than the PPP interface is to be used to the remote end. The default is "0".

Local IP Addr

The Internet address for this port. The default is "0.0.0.0".

Remote IP Addr

The Internet address for the host at the other end of the serial line. The default is "0.0.0.0".

Remote Username

The PPP ports user's name. The parameter is displayed as <set> or <unset>. The default is "<unset>".

Remote Password

The PPP port user's password. The parameter is displayed as <set> or <unset>. The default is "<unset>".

Serial Port Performance View

The Serial Port Statistics view displays two color-coded pie charts presenting breakdowns of Port Performance statistics. Each statistic is presented as a total amount since the Xylogics Terminal Server device was initialized and as a percentage of overall traffic. [Table 6](#) and [Table 7](#) display the information provided by each chart.

Table 6: Char Breakdown Pie Chart

Statistic	Description
In chars	The total number of characters received by the port.
Out Chars	The total number of characters transmitted by the port.

Table 7: Error Breakdown Pie Chart

Statistic	Description
Framing Errors	The total number of framing errors detected for the port.
Overrun Errors	The total number of overrun errors detected for the port.
Parity Errors	The total number of parity errors detected for the port.

Port Interface Status View

Access: Double-click label *b* of the Logical Interface Device icon.

This view provides the following information:

Port

Provides the interface number for this port.

Type

The current type of this port.

Operational Status

The current operational state of the port.

Administrative Status

The desired operational status of the port. This can be edited.

Interface Status View

Access: From the **Icon Subviews** menu for the Interface icon in the Interface Device view, select **IF Status**.

This view provides information on the operational status of the interface and allows you to enable or disable the port.

Operational Status

The current state of the interface (ON, OFF, or Testing).

Administrative Status

This button allows you to select the desired operational state of the interface (ON, OFF, or Testing).

Secondary Address Panel

Access: From the **Icon Subviews** menu for the Interface icon in the Interface Device view, select **Secondary Address Panel**.

This panel provides a table of IP addresses and masks obtained from the Address Translation table within the device's firmware. You can change the current address displayed in the **IP Address** field by selecting an entry from the table in this panel and clicking the **Update** button.

Device Topology Views

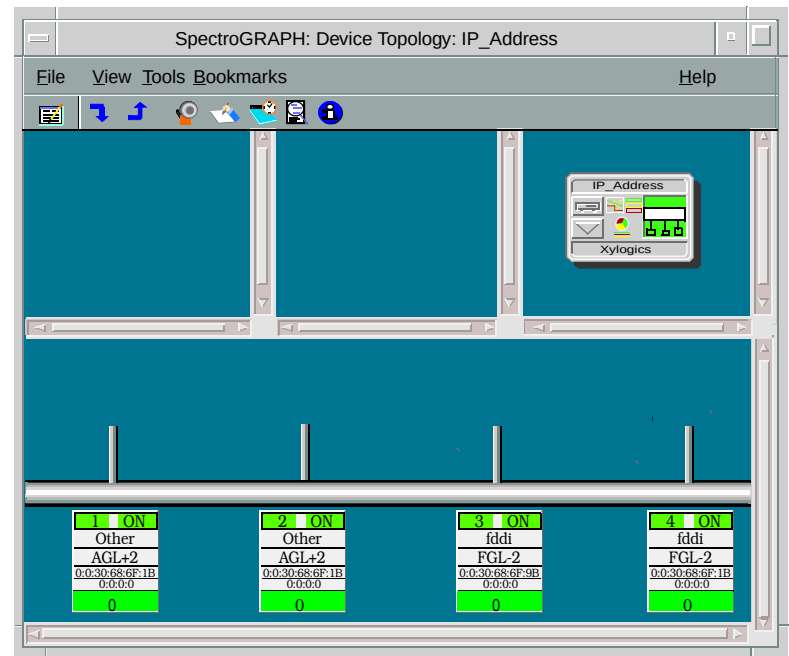
This section provides brief descriptions of the Device Topology views available for models of Xylogics Terminal Server devices in SPECTRUM.

Access: From the **Icon Subviews** menu for the Device icon, select **Device Topology**.

The Device Topology view (Figure 4) shows the connections between a modeled device and other network entities. The lower panel of the view uses Interface icons to represent the device's serial, network, and I/O ports. These icons provide the same information and menu options as those in the [Device Views](#) (Page 9). If a device is connected to a particular interface, a Device icon appears on the vertical bar above the Interface icon along with an icon representing the network group that contains the device.

Refer to the **SPECTRUM Views** documentation for details on Device Topology view.

Figure 4: Interface Device Topology View



Application Views

This section describes the main Application view and the associated application-specific subviews available for models of Xylogics Terminal Server devices in SPECTRUM.

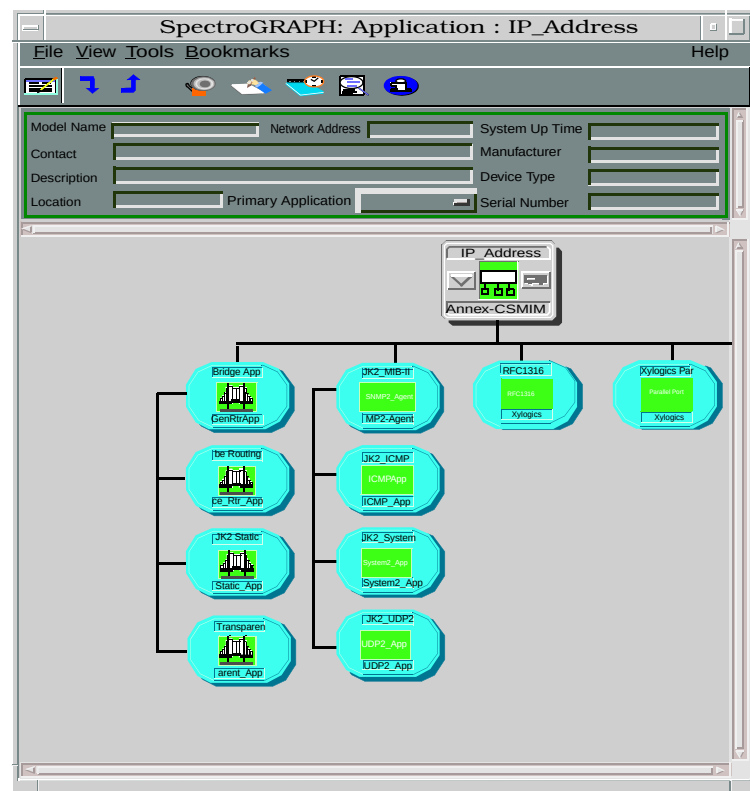
Access: From the **Icon Subviews** menu for the Device icon, select **Application**.

Main Application View

When a device model is created, SPECTRUM automatically creates models for each of the major and minor applications supported by the device. The main Application view identifies all of these application models, shows their current condition status, and provides access to application-specific subviews. [Figure 5](#) shows this view in the Icon mode. If you prefer the List mode, which displays applications as text labels, select **View > Mode > List**.

For more information on this view, refer to the **MIBs and the Application View** document.

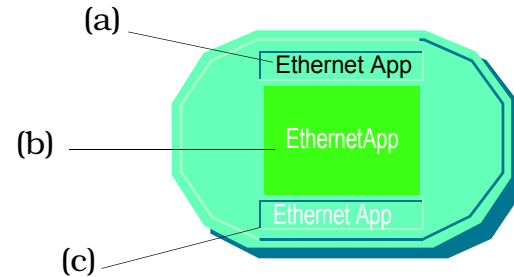
Figure 5: Xylogics Terminal Application View



Application Icons

When the Application view is in Icon mode, each of the application models is represented by an Application icon (Figure 6). Double-clicking the Model Name label (a) at the top of the icon opens the associated Model Information view—see [Model Information Views](#) (Page 62). For some applications, the Model Type label (c) at the bottom of the icon is also a double-click zone, which opens an application-specific view. Any views accessible through these double-click zones are also accessible from the Application icon's **Icon Subviews** menu.

Figure 6: Application Icon



- a** Model Name Label / Model Information View
- b** Condition Status Label
- c** Model Type Label / Application-Specific View

Supported Applications

SPECTRUM's applications can be grouped within two general categories as follows:

- Applications associated with non proprietary MIBs. See [Common Applications](#) below.
- Applications associated with device-specific MIBs. See (Page 36).

Common Applications

For the most part, these applications represent the non proprietary MIBs supported by your device. Listed below (beneath the title of the SPECTRUM document that describes them) are some of the common applications currently supported by SPECTRUM.



Note:

The documents listed below (in bold font) are available for viewing at:

www.aprisma.com/manuals/

- **Routing Applications**

- Generic Routing
- Repeater
- AppleTalk
- DECnet
- OSPF

- OSPF2
- BGP4
- VRRP

- **Bridging Applications**

- Ethernet Special Database
- Spanning Tree
- Static
- Transparent
- PPP Bridging
- Source Routing
- Translation
- QBridge

- **MIB II Applications**

- SNMP
- IP
- ICMP
- TCP
- System2
- UDP

- **Transmission Applications**

- FDDI
- Point to Point
- DS1
- DS3
- RS-232
- WAN

- Frame Relay
- Token Ring
- Ethernet
- Fast Ethernet
- rfc1317App
- rfc1285App
- rfc1315App
- 802.11App
- SONET

• **Technology Applications**

- APPN
- ATM Client
- DHCP
- PNNI
- rfc1316App
- DLSw



Note:

Aprisma Management Technologies can provide training, technical assistance, and custom engineering support services for creating application models and their associated views.

The following device-specific applications are described in the remainder of this section:

- [Character Stream Application View \(RFC1316App\)](#) (Page 37)
- [Parallel Port Application](#) (Page 40)
- [Xylogics Modem Application View](#) (Page 41)
- [Xyl Parallel Application Views](#) (Page 42)

Table 8: Common Applications

Application	For more info, see...
Routing (GenRtrApp)	Miscellaneous Applications
Ethernet (EthernetApp)	Miscellaneous Applications
Bridging (GenBridgingApp)	Bridging Applications
MIB-II (SNMP2_Agent)	MIB-II Applications

Character Stream Application View (RFC1316App)

The RFC 1316 application supports the following application-specific view.

Character Port Table

Access: Double-clicking on any portion of the text label on the RFC1316App Application icon.

This table provides the following information:

Port ID

An administratively assigned identifier for the port.

Type

The type of port: Physical if the port represents an external hardware connector, Virtual if it does exist.

Operstat

The port’s operational state. The operational states are described in [Table 9](#) below.

Table 9: Character Port Operational States

Operational States	Description
Up	Indicates that the port is able to function normally.
Down	Indicates the port’s inability to function for operational or administrative reasons.
Maintenance	Indicates that the port is in maintenance mode (e.g., running a test).
Absent	Indicates that port hardware is not present.
Active	Indicates that the port is up with user present (e.g., logged in).

Admin Status

The status of this port.

AdminOrigin

The origin for establishing the session on the port.

Sessions

The number of open sessions on the port that are in the connecting, connected or disconnecting state.

Character Port Detail View

This views contains the following information:

Port ID
Number identifier for the port.

Port Type
The port’s type: **Physical** if the port represents and external hardware connector, **Virtual** if it does not.

Operational Status
Display the port’s operational status.

Port Name
The port’s assigned name.

Administrative Status

This button displays the port’s desired state, and allows you to modify the value. The administrative states are described in table.

Table 10: Character Stream Port Administrative States

Administrative State	Description
Enabled	Indicates that the port is allowed to pass characters and form new sessions.
Disabled	Indicates that the port is allowed pass characters but form new sessions.
Off	Indicates that the port is in maintains mode (e.g. running a test).
Maint.	Indicates that the port is not allowed to pass characters or have any sessions.

System Up Time of Last Change
The value of the System Up Time at the time the port entered its current operational state. If the current state was entered prior to the last reinitialization of the local network management subsystem, then this object contains a value of zero.

Port Reset

This button allows you to force the port hardware and software into a clean, initial state, disconnecting all to the port’s existing sessions.

Session Index

References the session number for the port. A port’s session indexes need not be sequential and may be reused for different ports.

Number of Sessions

The number of open sessions on the port that are in the connecting, connected, or disconnecting state.

Maximum Sessions

The maximum number of concurrent sessions allowed on the port. A value of 1 indicates no maximum.

Session Origins

Allows the user to set the administratively allowed origin for establishing a session on the port. [Table 11](#) provides descriptions of Session origins.

Table 11: Origin Descriptions

Origin Type	Description
Dynamic	Network or local session establishment.
None	Disallows session establishment.
Network	Allows network session establishment.
Local	Allows local session establishment.

Session Table

Accesses the Sessions table, which provides information on the current sessions on the device. The Print button allows you to print out a copy of the table to a printer or a file. [Table 12](#) provides definitions of the fields available in the Session table.

Table 12: Session Table Descriptions

Statistic	Description
Port ID	Name for the port.
SessID	A reference to additional local MIB information. This should be the highest available related MIB, corresponding to charSessProtocol, such as Telnet. For example, the value for a TCP connection (in the absence of a Telenet MIB) is the object identifier of tcpCONNState.
State	The current session's operational state, disregarding flow control, is one of the following: connected - indicates that character data could flow on the networks side of a session, connecting - indicates moving form nonexistent toward "connected", disconnecting - indicates moving from "connected" or "connecting" to nonexistent.

Parallel Port Application

This application provides the following views and information. Double-click any field in this view to access the Parallel Port Details view.

Parallel Port Table

Access: Double-Click the text area of the Parallel Port Application icon.

This table provides the following information:

Port ID

The name of the port.

Port Type

The port's hardware type. Possible values are: centronics, dataproducts, or other .

In Signals

The number of input signals for the port that are displayed in Parallel Port Input Signals table.

Out Signals

The number of output signals for the port that are displayed in the Parallel Port Input Signals table.

Parallel Port Detail View

Access: Double-click any text field in the Parallel Port table.

The Parallel Port Detail view provides configuration information on a selected entry from the Parallel Port table, and allows you to modify the configuration values. The Print button allows you to print out a copy of the table to a printer or file. This view provides the following information:

Port ID
Identifier for this port.

Port Type
The port's hardware type.

Input Signals
The number of input signals for the port are displayed in the Parallel Port Input Signals table.



Click the Detail button to access the Parallel Port Output Signal table. This table lists port output control signals and contains entries only for those signals the software can detect.

Port ID
The ID for this port.

Signal Name
The name for the hardware's signal. Possible values are: power, online, busy, paperout, and fault.

State
Indicates the current signal state. Possible values are: none, off, and on.

Changes
The number of times the signal has changed from on to off.

Xylogics Modem Application View

The application provides access to the Modem Call Table view. This Modem Call table represents phone call statistics and accounting parameters, and is cleared each time the Annex is rebooted. When the number of archived calls exceeds the defined maximum, the oldest terminated call is replaced by new call information.

Modem Calls Table

Access: Double-click any text label on the XylModemApp icon, or select Modem Table from the **Icon Subviews** for the XylModemApp.

This table provides the following information:

Maximum Table Entries

Represents the number of call for which modem call accounting information is kept.

Port

The port number on which the phone call took place.

Modem Type

The type of modem.

Call Time

The time when the call took place.

Number Called

The number to which this call was made. If the call was not initiated by the Annex, the value is returned as a zero length string.

Duration

The length of the phone call.

Username

The name of the user associated with this port at the time of the call.

Status

Describes the status of the call. Possible value are: Active, Normal Termination, or Aborted.

Xyl Parallel Application Views

The Xyl Parallel Application provides one application-specific view; the Parallel Port Table view. [Table 13](#), below, provides descriptions and associated model type for device supporting the Xyl Parallel Application.

Table 13: Xyl Parallel Application Device Types

Description	Model Type
Micro Annex	Xyl_MicroCS
Micro CS	Xyl_MicroCS
Annex II	Xyl_CSMIM Xly_CSMIMII
Annex II	Xyl_CSMIM

Parallel Port View

Access: From the **Icon Subviews** for the XylPortApp icon, select **Parallel Port Table**.

The fields for this table are described in the next section, Xylogics Parallel Port Configuration view.

Xylogics Parallel Port Configuration View

Access: Double-click any column in the Parallel Port view to open the Xylogics Parallel Port Configuration view.

The Parallel Port Configuration view provides configuration information for the parallel ports. The fields for this view, similar to the column heading fields in the Parallel Port table, are described below.

Index

A value for each interface.

Width

The defined maximum number of characters per printer line.

TCP Keep Alive

The default keep-alive for connections to this parallel port.

CR/LF

When **enabled**, the Annex converts a carriage-return character for carriage-return/line-feed.

Hardware Tabs

This parameter controls whether the Annex sends a tab character to the printer. If **disabled**, the tab is replaced with spaces.

Map to Upper

When **enabled**, the Annex translates all lower case characters to upper case before transmitting the characters to the printer.

Speed

The current printer speed. The values are normal or high-speed.

Interface

Specifies the type of printer attached to the port. Printer choices are Centronics or Dataproducts.

Performance Views

This section provides brief descriptions of the Performance views available for models of Xylogics Terminal Server devices in SPECTRUM.

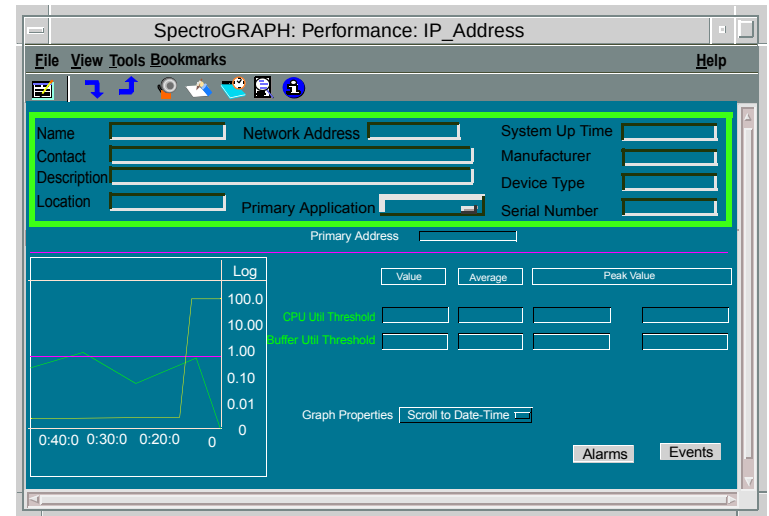
.Performance views display performance statistics in terms of a set of transmission attributes, e.g., cell rates, frame rates, % error, etc. A typical view is shown in [Figure 7](#). The instantaneous condition of each transmission attribute is recorded in a graph. The statistical information for each attribute is presented in the adjacent table.

Generally, you determine performance at the device level through Performance views accessed from the Device and Application icons. You determine performance at the port/interface level through Performance views accessed from Interface icons.

For more information on Performance views, refer to the **SPECTRUM Views** documentation.

The following paragraphs list the performance attributes displayed for each Performance view supported by this management module.

Figure 7: Device Performance View



Device Performance View

Access: From the **Icon Subviews** menu for the Device icon, select **Performance**.

Current and historical frame transmission information is provided via the following attributes.

- Frame Rate
- % Delivered
- % Forwarded
- % Transmit
- % Error
- % Discarded

Port Performance View

Access: From the **Icon Subviews** menu for the Device Interface icon, select **Performance**.

Current and historical packet transmission information is provided via the following attributes.

- Load
- Packet Rate
- % Error
- % Discarded

Configuration Views

This section describes the various Configuration views and subviews available for models of Xylogics Terminal Server devices in SPECTRUM.

Configuration views allow you to view and modify current settings for the modeled device and its interfaces, ports, and applications. The following Configuration views are available for models of Xylogics Terminal Server devices:

- [Device Configuration View](#)
- [CSMIM and Annex II Configuration View](#) (Page 47)
- [MicroAnnex, MicroCS, and CSMIM II Configuration View](#) (Page 54)

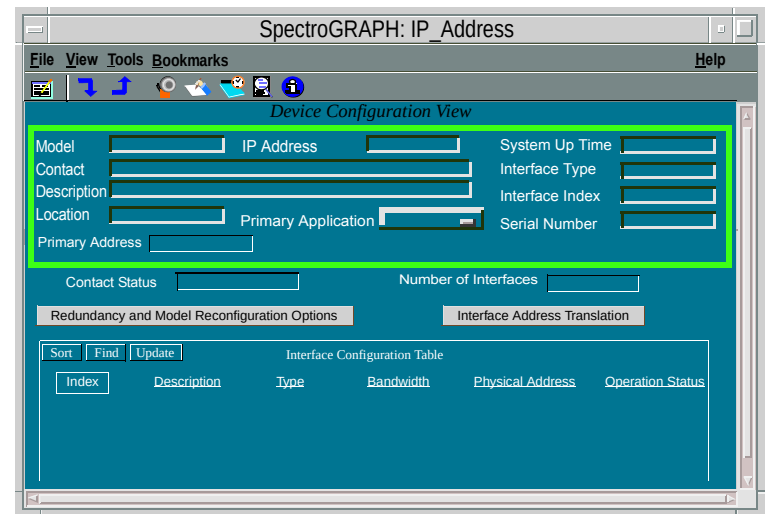
Device Configuration View

Access: From the **Icon Subviews** menu for the Device icon, select **Configuration**.

This view ([Figure 8](#)) provides status and configuration information about the device as a whole as well as on a port-by-port basis. It also provides button access to an Interface Address Translation table and a subview that lets you establish redundancy for the model. Fields and

column headings within the Device Configuration view and its subviews are explained in detail in the **SPECTRUM Views** documentation.

Figure 8: Device Configuration View



CSMIM and Annex II Configuration View

The Configuration View for the CSMIM and Annex II provides the following information and updatable fields for the CSMIM and Annex II:

HW Type

The hardware type on which the terminal server is running.

HW Rev

The hardware revision level on which the terminal server is running.

ROM Rev

The firmware version of the bootstrap ROM installed in the terminal server.

Memory Size

The amount of memory in the terminal server.

Serial Ports

The number of basic character serial ports available. Clicking on the **Detail** button accesses the Serial Port Table described later in this section.

Current Date

The current date and time provided by the time server, displayed in the following format: *Fri., Aug 19 14:51:29 1994.*

Time Zone

This read/write field allows you to define the time zone in which the terminal server resides in minutes west of Greenwich Mean Time (GMT).

Daylight Savings

This button allows you to define the daylight savings time for the geographic location of the terminal server.

Time Broadcast

Setting this button to Enabled, allows the terminal server to broadcast for the time if the preferred load host does not provide a time server.

Boot Host

The Internet Protocol (IP) address of the host from which the terminal server booted.

Image File

The name of the image file from which the terminal server last booted.

Domain

The default domain name provided by the Domain Name Server.Syslog Host

SW Type

The software version variant running in the terminal server.

Major SW Rev

The major software release number.

Minor SW Rev

The minor software release number.

SW Build

Provides a long rectangular window displaying the full name of the software build, including software version, major and minor version numbers, and date and time of the build.

Syslog Host

Provides the Internet Protocol (IP) address of the host configured to log terminal server messages.

Syslog Facility

This button allows you to select the syslog facility used in logging in terminal server messages.

Syslog Mask

Provides a long rectangular window displaying the priority levels of events logged into the terminal server sys log file. The default value is None.

Boot Parameters

This button accesses the Boot and Network Administration View, described later in this section.

Nameserver Parameters

This button accesses the Nameserver Parameters View, described later in this section.

Security Parameters

This button accesses the Security Parameters View, described later in this section.

LAT Parameters

This button accesses the LAT Parameters View, described later in this section.

VCLI Parameters

This button accesses the VCLI Parameters View, described later in this section.

Serial Port Parameters

This button accesses the Serial Port Table, described later in this chapter.

Boot and Network Administration View

You can access this View by clicking the **Boot Parameters** button in the Configuration View. The Boot and Network Administration View allows you to configure the Boot and Network

Administration Parameters for the device. This view provides the following information:

Internet Addr

The Internet Protocol (IP) address of the terminal server.

Subnet Mask

The Internet subnet mask.

Config File

The name of the host file containing the macro gateway/router rotary definitions for this terminal server.

MOTD File

The host file name containing the message-of-the-day (MOTD) for the terminal server.

Image File

The software file name to request for down-line load of the terminal server.

Dump File

The software file name that received the last terminal server memory dump.

TFTP Directory

Specifies the directory name to be prepared to all files when booting via TFTP.

Server Capability

Defines whether the server can act as a file server host for another server.

Disabled Modules

Defines which selected modules are disabled. Valid arguments are All, None, or one or more of the following names separated by commas: Admin, LAT, PPP, SLIP, SNMP, Nameserver, Edit. The default is None.

Preferred Load Addr

The preferred load address for terminal server.

Preferred Dump Addr

The preferred dump address for terminal server.

Load Dump Gateway

The Internet address of the gateway used when the preferred load or dump host is on a different network or subnet.

Load Broadcast

Setting this button to Enabled allows the terminal server to broadcast for the Config and MOTD files if they are not found on the preferred local host.

Broadcast Addr

The Internet address that the terminal server uses when sending broadcasts.

Load Dump Sequence

Lists the available network interfaces and the order in which the terminal server uses them when doing a down-line load or an up-line dump.

Authoritative Agent

Setting this button to Enabled allows the terminal server to send an ICMP Address Mask Reply to a received CMP Address Mask Request.

Routed

This button allows you to **Enable** or **Disable** the RIP-listener of the terminal server routing daemon.

Control

The Control View allows you to configure the Boot and Network Control Parameters for the CSMIM and Annex II. The View provides the following information:

Boot Mode

This button allows you to configure the boot mode type.

Reset

This button allows you to instruct the terminal server to reset the selected subsystem.

Boot Time

The time at which the next boot is scheduled in HH:MM format.

Image File

The software file name to request for down-line load of the terminal server.

Broadcast Message

The message that is broadcast to the terminal server ports.

Port Broadcast Mode

This button allows you to configure the direction that an administrative broadcast message is sent, given that the port is a slave port.

Port Broadcast Message

Displays the messages sent by users on other ports.

NameServer Parameters View

You can access this View by clicking on the **NameServer Parameters** button in the Configuration View. The NameServer Parameters View allows you to configure the NameServer Parameters for the device. This view provides the following information:

Nameserver Broadcast

Setting this button to **Enabled** allows the terminal server to broadcast a name server request if the preferred name servers do not respond.

Rwhod

Setting this button to **Enabled** allows the terminal server to listen for RWHO broadcasts when building its host table.

Min Unique Hostnames

This button allows you to **Enable** or **Disable** the terminal server minimum uniqueness feature.

Host Table Size

Defines the number of entries in the terminal server host table. Zero indicates no host table; 251 sets no limit on the size of the table.

Name Server 1

This button allows you to define the name server type on the primary name server host. Choices are: none, ien116, and dns.

Name Server1 Addr

The Internet address of the primary host providing the name service.

Name Server 2

This button allows you to define the name server type on the secondary name server host. Choices are none, ien116, and dns.

Name Server2 Addr

The Internet address of the secondary host providing the name service.

Security Parameters View

You can access this View by clicking on the **Security Parameters** button in the Configuration View. The Security Parameters View allows you to configure the Security Parameters for the devices. The View provides the following information:

Security Subsystem

This button controls whether the host-based security policy is Enabled for access to the subsystem from the server.

Password

Defines the administrative password used by the terminal server when setting up a virtual CLI connection. The default value is <set>.

ACP Key

Defines the encryption key used when exchanging messages between the terminal server and the security server. The default value is <unset>.

Network Turnaround

The amount of time, in seconds, that the terminal server waits for a response from a security server.

Security Broadcast

Setting this button to **Enabled** allows the terminal server to broadcast its security requests when neither of the preferred security servers are available.

Security Server1 Addr

The Internet address of the primary host (ACP server) to which the terminal server sends its security requests.

Security Server2 Addr

The Internet address of the secondary host to which the terminal server sends its security requests.

LAT Parameters View

You can access this View by clicking on the **LAT Parameters** button in the Configuration View. The LAT Parameters View allows you to configure the LAT Parameters for the Xylogics Terminal Server device. The View provides the following information:

Server Name

A string of up to 16 characters used to name the terminal server in the LAT protocol.

Facility Number

The LAT host number.

LAT Location

Specifies the location information for the LAT protocol.

LAT Key

Enables/disables the LAT protocol.

Group Value

Specifies a list of the enabled LAT group codes. The value is displayed as a string of hex characters with each bit defining whether or not a specific group is enabled or disabled.

VCLI Groups

Specifies a list of remote LAT group codes that are accessible to all VCLI users.

Service Limit

Defines the upper boundary on the number of services that the terminal server can maintain.

Retransmit Limit

The number of times to retransmit a packet before notifying the user of a network failure.

LAT Queue Max

Defines the maximum number of LAT host requests that the terminal server saves in its internal queue when the host is not available.

Circuit Timer

The time interval, in tens of milliseconds, between the transmission of LAT packets.

Keep Alive Timer

The time interval, in seconds, between the transmission of identification packets during times of network inactivity.

VCLI Parameters View

You can access this View by clicking on the **VCLI Parameters** button in the Configuration View. The VCLI Parameters View allows you to configure the VCLI Parameters for the Xylogics Terminal Server device. The View provides the following information:

Maximum VCLIs

The maximum number of virtual CLI connections allowed by the terminal server at any one time. A value of zero indicates the terminal server does not allow VCLI connections; a value of 255 indicates the terminal server can maintain an unlimited number of VCLI connections.

VCLI Security

Setting this button to **Enabled** allows the terminal server to validate the user on virtual CLI connections.

VCLI Password

Defines the password used by the terminal server when setting up a virtual CLI connection. The default value is **<unset>**.

CLI Prompt

The string used by the terminal server to prompt all CLI users.

Serial Port Table

You can access this View by clicking on the serial ports **Detail** button in the Configuration View. This table contains entries concerning the Serial Port. Double-click on any entry in the Serial Port Table to access the Serial Port Configuration View. The Serial Port Table's fields are discussed below.

Port ID

An index value that uniquely identifies a port.

Mode

Defines the mode for accessing the serial port. The default is CLI.

CntlLns

The type of hardware control used on the port: modem control (dcdtr), flow control (ctsrts), or both.

IdleTm

Defines whether input or output resets the idle timer for the port.

Port Sec

Controls whether or not the host-based security policy is enabled for access to the port from the port server.

Echo

Controls whether or not the terminal server echoes all characters as they are received from the port.

SLIPMtu

Forces the compressed SLIP interface to use a Maximum Transmission Unit (MTU) of either 1024 bytes (large) or 256 bytes (small). The default is large.

PPPMru

Defines the maximum receive units in bytes. The default value is 1500.

LAT-B

This feature controls interpretation of LAT Data-B packets received from the host.

MicroAnnex, MicroCS, and CSMIM II Configuration View

The Configuration View for the MicroAnnex, MicroCS, and the CSMIM II contain the following fields and buttons for accessing additional Views or tables.

HW Type

The hardware type on which the terminal server is running. The following are object types: err, annex, annex3, microannex, microels, Xylogics Terminal Server device1, ods, Synoptics5390, Xylogics Terminal Server device2, annexs2000, microcs, and annex4000.

HW Rev

The revision level of the hardware platform on which the terminal server is running.

ROM Rev

The revision number of the ROM Monitor Software.

Memory Size

The amount of memory in the terminal server.

Chassis Segment

The current hub backplane segment to which the module is attached. If unknown, a value of 0 is returned.

Serial Ports

The number of basic character serial ports available. Clicking the **Detail** button accesses the Serial Port Table described later in this section.

Lan Interface HW Type

The type of LAN interface hardware in the unit.

MAC Address

The serial number assigned to the unit.

Attachment Changes

The total number of attachment changes for the module since the last cold/warm start for the module. If unknown, a value of 0 is returned.

Memory Size

The amount of memory present in the unit.

EEPROM size

The size of EEPROM present in the unit, reported in kilobytes. EEPROM is used to store configuration parameters and filter definitions for all platforms.

Flash Size

The size of the FLASH memory in the unit. FLASH memory is used to store an operation image in self boot units. If the ROM revision in the unit is less than 0750, the size is used to store an operation image in self boot units.

Chassis Slot ID

The current slot number for the module in the chassis.

Network Parameters

This button access the Network Administration Table, described later in this chapter.

Interface RIP Table

This button describes the Interface RIP Table View, described later in this section.

Boot Parameters

This button accesses the Boot and Network Administration View, described later in this section.

Software Parameters

This button accesses the Software Configuration View, described later in this chapter.

Protocol Parameters

This button accesses the Protocol Administration View, described later in this chapter.

Serial Port Parameters

This button accesses the Serial Port View, described later in this chapter.

Trap Host Parameters

This button accesses the Trap Host View, described later in this chapter.

LAT Parameters

This button accesses the LAT Parameters View, described later in this section.

Security Parameters

This button accesses the Security Parameters View, described later in this section.

Nameserver Parameters

This button accesses the Nameserver Parameters View, described later in this section.

Network Parameters

The Network Administration View allows access to objects pertaining to the setup and configuration of IP and TCP networks.

Interface RIP Configuration View

This View allows access to objects pertaining to the setup and configuration of IP RIP protocol services at the device level. The Interface RIP Configuration View is accessed by double-clicking any column entry in the Interface Routing Table.

Boot and Network Administration View

You can access this View by clicking the **Boot Parameters** button in the Configuration View. The Boot and Network Administration View allows you to configure the Boot and Network Administration Parameters for the MicroCS. The fields for this View are described in the Boot and Network Administration View for Xylogics Terminal Server device, earlier in this chapter.

Protocol Administration

You can access this View by clicking the Protocol Parameters button. Information for the IPX, Apple Talk, RIP, MOP and TMUX fields is described.

Serial Port Table

You can access this View by clicking on the serial ports **Detail** button in the Configuration View. This table contains entries concerning the Serial Port. Double-click on any entry in the Serial Port

Table to access the Serial Port Configuration View
The Serial Port Table's fields are discussed below.

Port

An index value that uniquely identifies a port.

Mode

Defines the mode for accessing the serial port.
The default is CLI.

Control Lines

The type of hardware control used on the port:
modem control (dcdtr), flow control (ctsrts), or
both.

Idle Time

Defines whether input or output resets the idle
timer for the port.

Security

Controls whether or not the host-based security
policy is enabled for access to the port from the
port server.

Echo

Controls whether or not the terminal server
echoes all characters as they are received from
the port.

SLIP Mtu

Forces the compressed SLIP interface to use a
Maximum Transmission Unit (MTU) of either

1024 bytes (large) or 256 bytes (small). The
default is large.

PPP Mru

Defines the maximum receive units in bytes. The
default value is 1500.

LAT-B

This feature controls interpretation of LAT Data-B
packets received from the host.

Trap Host View

You can access this View by clicking the **Trap
Hosts Parameters** button in the Configuration
View. Double-click any entry in the Trap Host
Table to open the Trap Host Configuration View.
The Trap Host View allows you to configure traps
for device.

LAT Parameters View

You can access this View by clicking on the **LAT
Parameters** button in the Configuration View.
The LAT Parameters View allows you to configure
the LAT Parameters for the device. The fields for
this View are described in the LAT Parameters
View, earlier in this chapter.

Security Parameters View

You can access this View by clicking on the **Security Parameters** button in the Xylogics Terminal Server device Configuration View. The Security Parameters View allows you to configure the Security Parameters for the devices. The View fields are described under the Security Parameters View for the CSMIM and Annex II Configuration View, discussed earlier in this chapter.

NameServer Parameters View

You can access this View by clicking on the **NameServer Parameters** button in the Configuration View. The NameServer Parameters View allows you to configure the NameServer Parameters for the Xylogics Terminal Server device. This View provides the following information:

Nameserver Broadcast

Setting this button to **Enabled** allows the terminal server to broadcast a name server request if the preferred name servers do not respond.

Rwhod

Setting this button to **Enabled** allows the terminal server to listen for RWHO broadcasts when building its host table.

Min Unique Hostnames

This button allows you to **Enable** or **Disable** the terminal server minimum uniqueness feature.

Host Table Size

Defines the number of entries in the terminal server host table. Zero indicates no host table; 251 sets no limit on the size of the table.

Name Server 1

This button allows you to define the name server type on the primary name server host. Choices are none, ien116, and dns.

Name Server1 Addr

The Internet address of the primary host providing the name service.

Name Server 2

This button allows you to define the name server type on the secondary name server host. Choices are none, ien116, and dns.

Name Server2 Addr

The Internet address of the secondary host providing the name service.

Diagnostic View

The Diagnostic View provides information on the Xylogics Terminal Server device's status over a period of time.

You can access the Diagnostic View by double-clicking on the Diagnostic View label or selecting **Diagnostic** from the Icon SubViews menu.

Diagnostic View Information

The attributes displayed are pre-selected and use colors to represent the following statistics:

Cntx Switches

The total number of context switches since last booting the Xylogics Terminal Server device.

Activations

The number of processes that have been activated since last booting the Xylogics Terminal Server device.

Reschedules

The total number of processes that have timed out since last booting the Xylogics Terminal Server device.

CPU Util

The percent of CPU time currently in use.

Details

This button accesses the Diagnostic Detail View, providing detailed breakdowns of the device diagnostic statistics. The Diagnostic Detail View is described later in this section.

This View also contains a Multi-Attribute Line Graph which provide buttons that access other Views, and a general indication of server activity. For more information on the Multi-Attribute Line Graph and its buttons, refer to ***SPECTRUM Views***.

Diagnostic Detail View

This View displays detailed breakdowns of the device diagnostic statistics.

Accessing the Diagnostic Detail View

You can access this View by clicking on the **Details** button in the Diagnostic View.

Diagnostic Detail View Information

The Diagnostic Detail View provides the following information:

% CPU Util

The percentage of the device's total CPU power currently utilized.

Max Processes

The total number of process structures allocated for use.

Active Processes

The number of currently active processes.

Most Processes

The maximum number of active processes since booting the Xylogics Terminal Server device.

Total CPU Activates

The number of processes that have been activated since last booting the Xylogics Terminal Server device.

Total Context Switches

The total number of context switches since last booting the Xylogics Terminal Server device.

Total CPU Reschedules

The total number of processes that have timed out since last booting the Xylogics Terminal Server device.

Usable Memory

The amount of memory available for data buffers and other structures.

Free Memory

The amount of currently available memory.

Min Free Memory

The minimum amount of free memory since booting the Xylogics Terminal Server device.

Max Callouts

The number of allocated Callout structures for timed events in the Xylogics Terminal Server device.

Free Callouts

The current number of free Callout structures.

Least Callouts

The least number of Callouts that were available since last booting the Xylogics Terminal Server device.

Total Mbufs

The total number of mbufs allocated by the Annex kernel.

Free Mbufs

The number of currently available mbufs.

Min Mbufs

The least number of mbufs available at any time since the last reboot of the Annex.

Denied Mbufs

The number of times a process requested an mbuf and was denied since there were none available.

Model Information Views

This section provides a brief description of the Model Information views available for models of Xylogics Terminal Server devices in SPECTRUM.

Model Information views display administrative information about devices and their applications and let you set thresholds and alarm severity for the devices.

Figure 9 shows a sample Model Information view. The layout of this view is the same for all model types in SPECTRUM but some information will vary depending on the model it defines. Refer to the **SPECTRUM Views** documentation for a complete description of this view.

Figure 9: Model Information View

The screenshot shows the 'SpectroGRAPH: Model Information' window. It has a menu bar with 'File', 'View', 'Tools', 'Bookmarks', and 'Help'. Below the menu is a toolbar with icons for file operations and navigation. The main content area is divided into several sections:

- Top Section:** Fields for 'Model Name', 'Net Addr', 'Sys Up Time', 'Contact', 'Manufacturer', 'Description', 'Device Type', 'Location', 'Primary App', and 'Serial Number'.
- General Information Section (Blue background):**
 - MM Name
 - MM Part Number
 - MM Version Number
 - Model Type
 - Model Creation Time
 - Model Created By
 - Model State
 - Security String
- Communication Information Section (Blue background):**
 - DCM TimeOut
 - DCM Retry
 - Community Name
 - Mgmt Protocol
- Poll/Log Information Section (Blue background):**
 - Poll Interval
 - Polling Status

At the bottom of the window, there is a status bar that reads: 'IP Address of type Xylogics of Landscape X: Primary'.

Index

A

- Address Translation table [31](#)
- Administrative Status [31](#)
- Application
 - Common
 - Bridging
 - (GenBridgingApp) [36](#)
 - Ethernet (EthernetApp) [36](#)
 - MIB-II (SNMP2_Agent) [36](#)
 - Routing (GenRtrApp) [36](#)
- Authoritative Agent [50](#)

B

- Boot Parameters [48](#)

C

- Chassis Device View [9](#)
- Colors
 - Interface Status Label [10](#)
- Condition Status Label [34](#)
- Configuration views [46](#)
- Control [50](#)

D

- Daylight Savings [47](#)
- Device Configuration View [46](#)
- Device icon [7](#), [9](#)
- Devices supported by this module [6](#)
- Domain [47](#)
 - Name Server [47](#)

E

- Ethernet Interface Configuration
 - View [12](#)
- Ethernet Logical Interface
 - Number [11](#)
- Ethernet Logical Interface Status [12](#)

I

- Icon Subviews Menus
 - for Interface icon [11](#)
- Icons
 - Device [7](#)
 - Interface [10](#)
- Interface icon [10](#)

- Interface Icon Subviews Menu
 - Options [11](#)
- Interface Status View [30](#)
 - Administrative Status [31](#)
 - Operational Status [30](#)

L

- label a [11](#)
- label b [12](#)
- label c [12](#)
- label d [12](#)
- Labels
 - Application Icon
 - Condition Status [34](#)
 - Model Name [34](#)
 - Model Type [34](#)
 - Interface
 - IF Status Label [10](#)
 - Interface Number Label [10](#)
 - Interface Type Label [10](#)
 - Physical Address Label [11](#)
- LAT Parameters [48](#), [56](#)
- Load Broadcast [49](#)

M

Min Unique Hostnames [51, 58](#)

Model

Information

View [61](#)

Model Information views [62](#)

Model type [7](#)

Model Type Label [34](#)

MotMPRouter [7](#)

N

Name

Server 1 [51, 58](#)

Server 2 [51, 58](#)

Nameserver

Broadcast [51, 58](#)

Nameserver Parameters [48, 56](#)

Network I/O ports [32](#)

O

Operational Status [30](#)

R

Required Reading [5](#)

Routed [50](#)

Rwhod [51, 58](#)

S

Secondary Address Panel [31](#)

Security

Broadcast [52](#)

Subsystem [51](#)

Security Parameters [48, 56](#)

Serial ports [32](#)

Statistics

Routing Frame Transmission [45](#)

Syslog Facility [48](#)

T

Time Broadcast [47](#)

V

VCLI Parameters [48](#)

Views

Application [33](#)

Configuration [46](#)

Device Configuration [46](#)

Interface Device [9](#)

Interface Status [30](#)

Model Information [62](#)

Performance [44](#)